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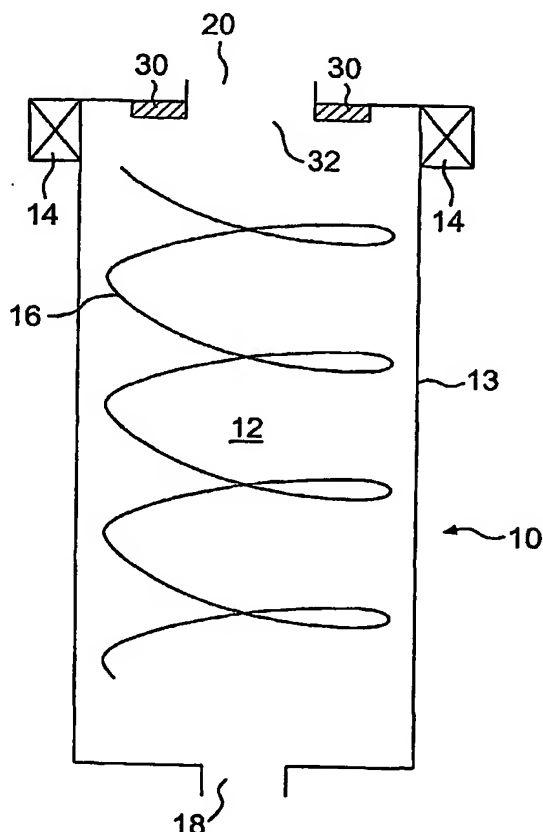
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- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

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(54) Title: PLASMA REACTOR FOR THE PRODUCTION OF HYDROGEN-RICH GAS



(57) Abstract: A plasma reactor is provided. The plasma reactor includes a reaction chamber formed by a wall. Proximate to the first end of the reaction chamber, the plasma reactor includes a feed gas inlet for creating a reverse vortex gas flow in the reaction chamber. The plasma reactor also includes an anode and a cathode connected to a power source for generation of an electric arc for plasma generation in said reaction chamber. The plasma reactor may optionally include a movable electrode adapted for movement from a first, ignition position to a second, operational position in the reaction chamber. Also provided is a method of converting light hydrocarbons to hydrogen-rich gas, using the plasma reactor of the invention.



CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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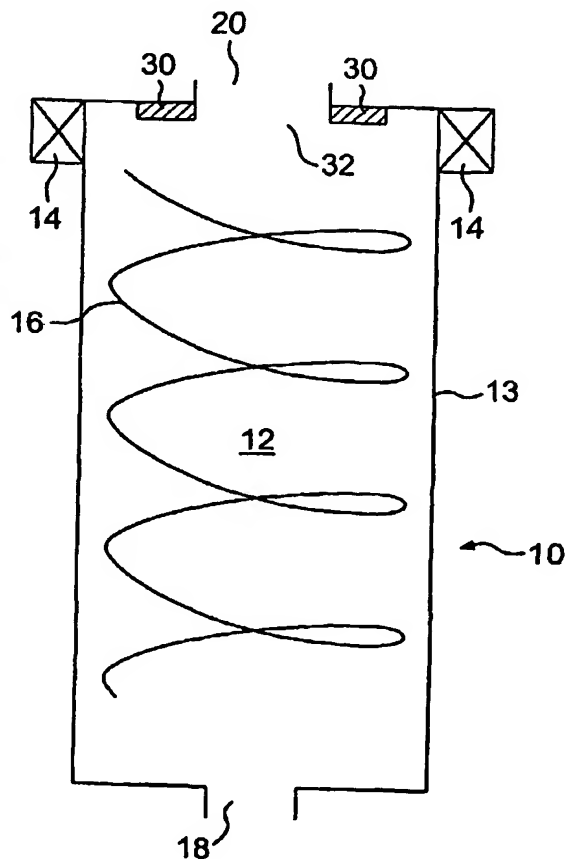
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(54) Title: PLASMA REACTOR FOR THE PRODUCTION OF HYDROGEN-RICH GAS



(57) Abstract: A plasma reactor (10) is provided. The plasma reactor (10) includes a reaction chamber (12) formed by a wall (13). Proximate to the first end of the reaction chamber, the plasma reactor includes a feed gas inlet (14) for creating a reverse vortex gas flow (16) in the reaction chamber. The plasma reactor (10) also includes an anode and a cathode connected to a power source for generation of an electric arc for plasma generation in said reaction chamber. The plasma reactor (10) may optionally include a movable electrode adapted for movement from a first, ignition position to a second, operational position in the reaction chamber. Also provided is a method of converting light hydrocarbons to hydrogen-rich gas, using the plasma reactor of the invention.



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